Texasgulf Chemicals Co. A Division of Texasgulf Inc.
P.O. Box 1208 Moab, Utah 84532

Potash Operations
(801) 259-7171

January 17, 1986

State of Utah Department of Health
Bureau of Water Pollution Control
150 West North Temple
P. O. Box 45500
Salt Lake City, Utah 84145

ATTN: Loren Morton

RE: Plugging and Abandonment Plan

Dear Mr. Morton:

Inclosed are the corrected sheets for the Plugging and Abandonment Plan.

Sincerely,

Chris W. Sterry

Enviromental Supervisor

Enlosures

cc: Pamela Grubaugh-Littig -Chief Reclamation Engr., DOGM Rudy S. Higgins - Texasgulf

Clark H. Huff - Texasgulf Jim H. Huizingh - Texasgulf

ABANDONMENT PLAN

RECEIVED

JAN211986

\$128,920.00

Cost Estimate to Plug #1 Shaft

	Remove Salt			DIVIS GAS	ION OF OIL & MINING		
Prepare Shaft for Solution Mining HRS				\$/HR			
-	frame as Derick				\$10,000.00		
Move in Work	over Rig		8	\$175.00	\$1,400.00		
Pickup Pipe	-		2	\$175.00	\$350.00		
Rent 2000ft :	2 7/8" Drill Pipe @\$.06/	/ft/day 2 Days			\$240.00		
Drill to 2000	oft @5ft/min West Side		8	\$175.00	\$1,400.00		
Drill to 2000	ft @5ft/min East Side		8	\$175.00	\$1,400.00		
Lay Down Dri	11 Pipe		2	\$175.00	\$350.00		
	ipe @\$.07/ft/day for 40	Days			\$11,200.00		
Pickup 6" Pip			2	\$175.00	\$350.00		
•	2000ft East Side		6	\$175.00	\$1,050.00		
Pickup 6" Pip			2	\$175.00	\$350.00		
	2000ft West Side		6	\$175.00	\$1,050.00		
Travel Costs (•				\$396.00		
	? Days @\$1950/Day				\$3,900.00		
	tings for Surface				\$10,000.00		
Install Valves	and Fittings				\$4,000.00		
		Subtota)			\$47,436.00		
Solution Mine Salt From #1 Shaft							
	by River for Pumps				\$1,000.00		
	5000PM Diesel Pump at I				\$500.00		
	OHP 1500GPM Diesel Pun				\$2,000.00		
	IP Pump for 30 Days @\$5	A STATE OF THE PARTY OF THE PAR			\$1,500.00		
	HP Pumps for 30 Days @				\$6,000.00		
	t 8" Pipeline from River				\$4,500.00		
•	e for 30 Days @\$.13/ft/d	ay			\$10,920.00 \$500.00		
	500GPM Pump At Shaft	· 0 / 10			\$1,500.00		
	IP Pump for 30 Days @\$5				\$1,350.00		
	8" Pipe from Shaft to Tail	IS Lake			\$3,510.00		
Rental on 900 Fuel for Pump	•				\$3,010.00		
	,3 11ga1/hr *24hrs*30day	ıα¥ € Ω7			\$14,573.00		
	GAL/HR *24*30*\$.92	3 4.72			\$5,299.00		
	ays @ \$27.55/HR				\$19,836.00		
oper day 50b	dy5 & \$21.0071110	Subtotal			\$72,988.00		
		Cubwai			4.2,500.00		
Remove 6' Pipe From Sha	aft						
Move in Work			8	\$175.00	\$1,400.00		
Remove 4000			12	\$175.00	\$2,100.00		
Lay Down 6" F			4	\$175.00	\$700.00		
Travel Costs C	•				\$396.00		
	Days @\$1950/day				\$3,900.00		
-	· · · · · · · · · · · · · · · · · · ·	Subtotal		,	\$8,496.00		

Total For Removing Salt

ABANDONMENT PLAN

Cost Estimate to Plug #1 Shaft

Cost of Cement for Shafts					
Quote from Ideal Cement @79.75/ton FOB SLC					
\$79.75/ton * 25 Ton Truck Capacity =\$1,993.75					
Freight Cost					
Cost per 941b Sack	\$4.43 SACK				
Halliburton Handling Charge	\$0.95 SACK				
Tambar on Handring only go	\$5.38 SACK				
	\$0.00 UNUK				
Cementing Costs - 32,215 Sacks Required					
Assuming 6 Days 5400 Sacks per Day					
• • •		\$350			
Move in Workover Rig		\$330			
Move in Cost for Halliburton	A704.00				
Cement Pump Truck 140Miles @\$2.15	\$301.00				
Bulk Truck 140Miles @\$.90	\$126.00				
Crew Truck 140Miles @\$.90	\$126.00				
Subsistance 3 Men @\$80 - 6 Days	\$1,44 0.00				
		\$1,993			
Workover Rig 6 - 8 HR Days @\$175/hr		\$8,400			
Rent 2000ft 2 7/8" Drill Pipe @\$.06/ft/Day 6 Days		\$720			
Halliburton Cement Truck 6 Days @\$1,260		\$7,560			
Halliburton Subsistance 3 Men 6 Days @ \$80/day		\$1,440			
1000 Sack Cement Bins 6 Required		4.,			
Move in Costs 140Miles @\$.9	\$756.00				
10 0 × 0 × 0 × 0 × 0 × 0 × 0 × 0 × 0 ×					
6 Bins @ \$112/day * 6 Days	\$4,032.00	¢4 788			
Total Domeston Control	_	\$4,788			
Total Pumping Costs		\$25,251			
Cement Cost #1 Shaft 32,215 Sacks		\$173,317			
Total Cementing Costs		\$198,568			
Prepare Shaft for Filling with Gravel					
Drill and Blast 4ft Dia hole in Center of Shaft	Allow	\$4,000			
Fabricate 3ft Thick Removable Cover	VIIOM	\$ 1,000			
	A33	\$7.000			
with 6" Inspection Pipe	Allow	\$3,000			
Fabricate Chute for Dumping Gravel in Shaft	Allow	\$3,000			
Subtotal		\$10,000			
Fill #1 Shaft with Gravel (1900ft Deep 22ft Diameter)					
(See Appendex H for Availability and Cost of Gravel)					
Fill with 26750 Cu Yds Gravel @\$4.47/CY		¢110 577			
riii willi 20750 Cu fus oravei @\$4,477Cf		\$119,573			
Refill With Gravel after 5 Years					
Gravel Refill					
Assume 10% Settling (2675 Cu Yds) @\$4.47/CY		\$11,957			
Total Cost For Gravel Fill	-	\$151,530			

Total Cost for Plugging #1 Shaft

\$479,018

ABANDONMENT PLAN

ABANDONMENT PLAN TOTAL COST ESTIMATE

Adj	usted to 1990 @3.75% Interest (rounded to ,000)	\$1,097,000
	15% Contingency Total	\$119,000 \$912,300
	Subtotal	\$793,300
4.	Engineering Supervision \$535/Day - 60 Days	\$32,100
3.	Plug #2 Shaft	\$18,500
2.	Plug #1 Shaft	\$479,000
1.	Plug Wells 1 thru 23	\$263,700